

## Day 2 - Electricity (2) – Circuits

**Learning:** How electrons flow through wires when there is a complete circuit and there is a power source.

### Experiment 1:

#### Need:

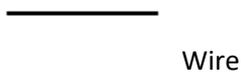
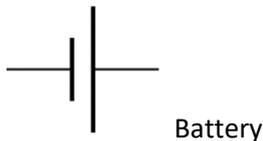
1. Wire
2. Light Bulb and holder
3. Battery and holder

#### Method:

1. Give each group a wire, a light bulb and a battery.
2. Ask the groups to make the light bulb go.
3. Give the children some time to try to work it out.

Discuss why did the light go? What did you have to do to make the lightbulb work?

Draw a circuit on the board as they talk about the parts and where they are joined. Use the following symbols:



Rub some of the wire away, and ask if they circuit will work now. Why doesn't it work now? Lead them to realise that everything must join up to work. This is called a circuit.

Hold up a piece of wire. Imagine this wire is halved again and again and again – until you get to the smallest possible particle. It is called a molecule and molecules are made of atoms. Atoms are made of different parts – they have a middle part and swishing around the middle part are very tiny things that no one can see called electrons. It is these electrons that are important with electricity. When electricity is flowing to make a light go – these electrons are flowing through the wire. When the electrons stop, the electricity stops and the light doesn't go.

### Experiment 2:

#### Need:

1. Chair
2. Hulu hoop

#### Method:

1. Children are electrons moving through a wire. Hands on shoulders of person in front in a line – bring into a circle. Stay joined.
2. The chair is the battery, two serving ones are the battery chemicals – they help the electrons up onto the chair and over it and send them on their way (keep the electrons moving). But tell children the chemicals start to run out after a while (they get tired) and they will stop.
3. In Hulu hoop have a child in it as the light bulb – who is beaming as the electrons go passed.

4. Break the circuit (Children know that if circuit breaks electrons instantly “freeze”. Join again. Do that a few times.

### **Experiment 3:**

1. Wire
2. Light Bulb and holder
3. Battery and holder x3 (One battery that is flat)

### **Method:**

1. Use circuit from experiment 1 to test batteries
2. Complete circuit worksheet by testing each circuit diagram.

Discuss

### **Craft 2: Make an Electrical Bug**

#### **Need:**

1. D Battery
2. Light bulb holder
3. Light bulb
4. Wire
5. Cellotape
6. Coloured Paper
7. Stickers
8. Polymer Clay
9. Googly Eyes
10. Scissors
11. Pipe cleaners

#### **Method:**

1. Prepare before craft: Attach wires and light bulb holder to D battery.
2. Mould clay around light bulb holder to create a face, attach googly eyes.
3. Wrap coloured paper around D battery, using cellotape to attach to D battery.
4. Attach pipe cleaners for legs.
5. Decorate with stickers.